

Alberta ESRD Emergency Air Monitoring and Assessment System (EAMAS)

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Alberta Environment and Sustainable Resource Development-
ESRD

Ron Chapman, Technical Director, RWDI



Canada | USA | UK | India | China

Reputation Resources Results www.rwdiair.com

What is EAMAS?



Architecture Review



Sources:
Industry high risk sources -
tanks, vessels, piping.
Industry Inputs Data

Meteorology:
WBEA Stations &
NCEP Forecast



Processing
(Forecast and Dispersion
Modelling H/W at
Oxbridge)

WBEA Station
Analyzer Data



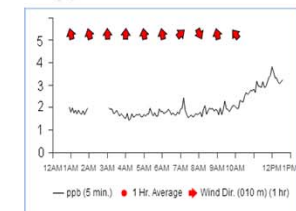
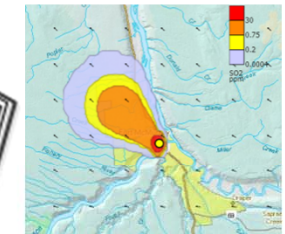
GIS Web Services
For Mapping and Layers
at Service Alberta



Secure EAMAS Website
at Oxbridge

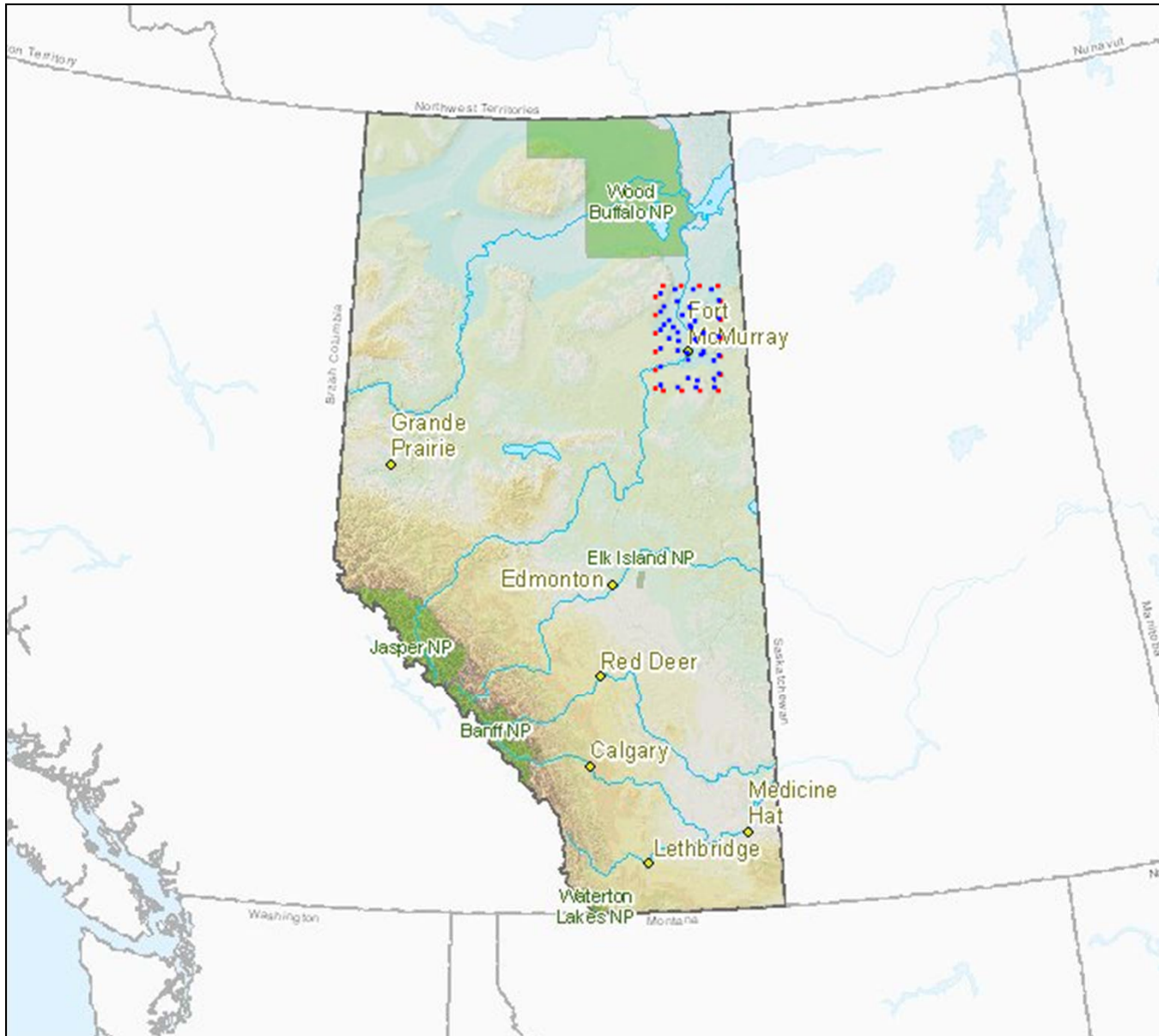


Assessment Team
(Industry, Municipality,
AER, ESRD , etc)



- Phase 1 – Feasibility (2011)
- Phase 2 – Design (2011)
- Phase 3 – Build (2012/2013)
- Phase 4 – Rollout (2013)

EAMAS Phase 3 Region



Industry Participants:

CNRL – Horizon

Nexen – Long Lake SAGD

Suncor – Base Plant

Syncrude

Other Participants:

RWDI

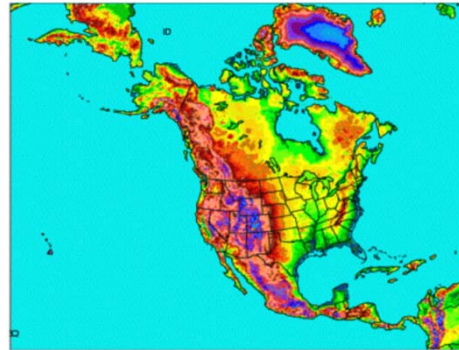
GoA (Service Alberta, GIS group, IT)

WBEA

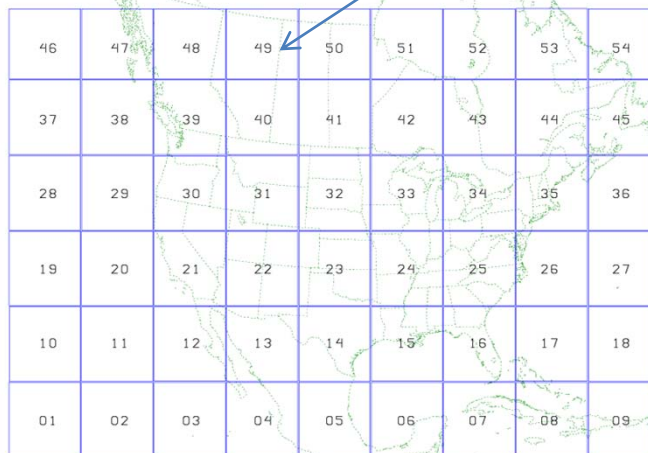
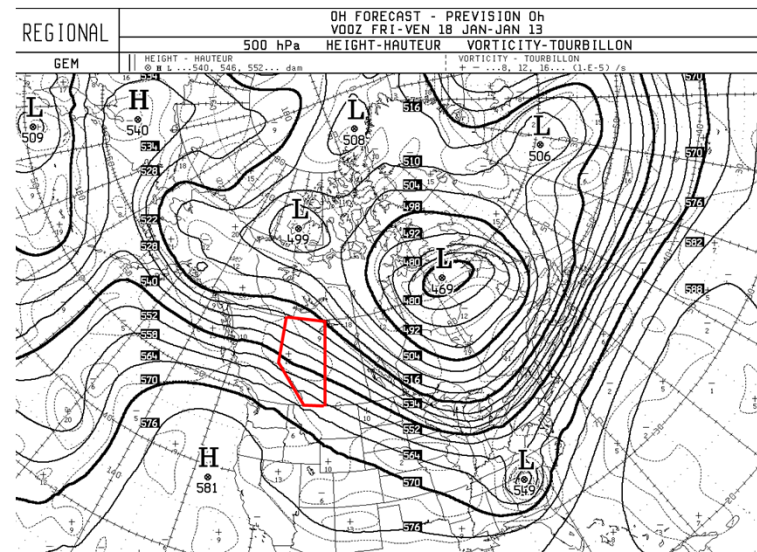
NCEP – North American Mesoscale System (NAM 12km)



Global Forecast



NAM 12km



OH FORECAST - PREVISION Oh
VOOZ FRI-VEN 18 JAN-JAN 13

REGIONAL

500 hPa HEIGHT-HAUTEUR VORTICITY-TOURBILLON

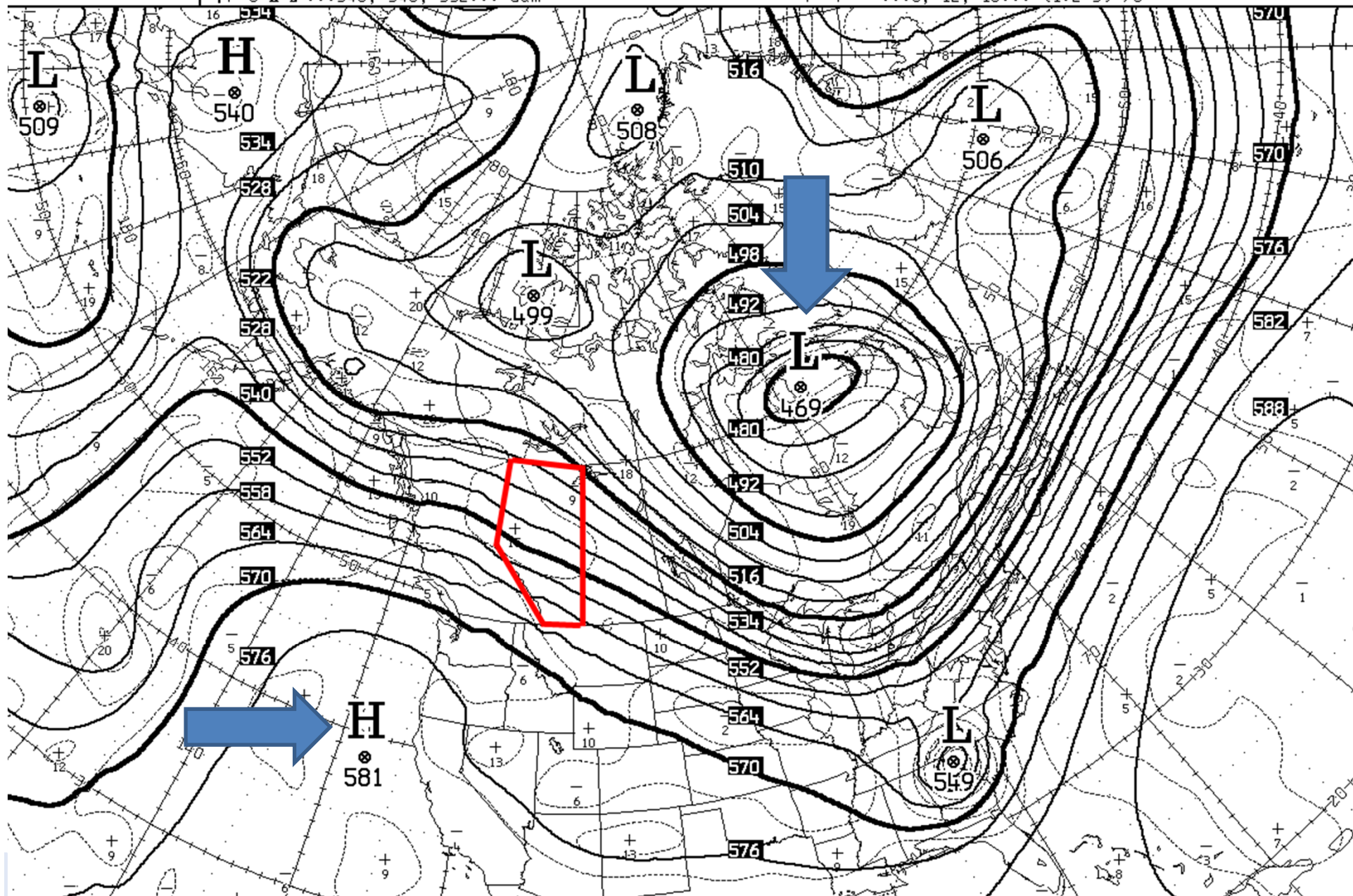
GEM

HEIGHT - HAUTEUR

⊗ H L ... 540, 546, 552... dam

VORTICITY - TOURBILLON

+ - ... 8, 12, 16... (1.E-5) /s



REGIONAL

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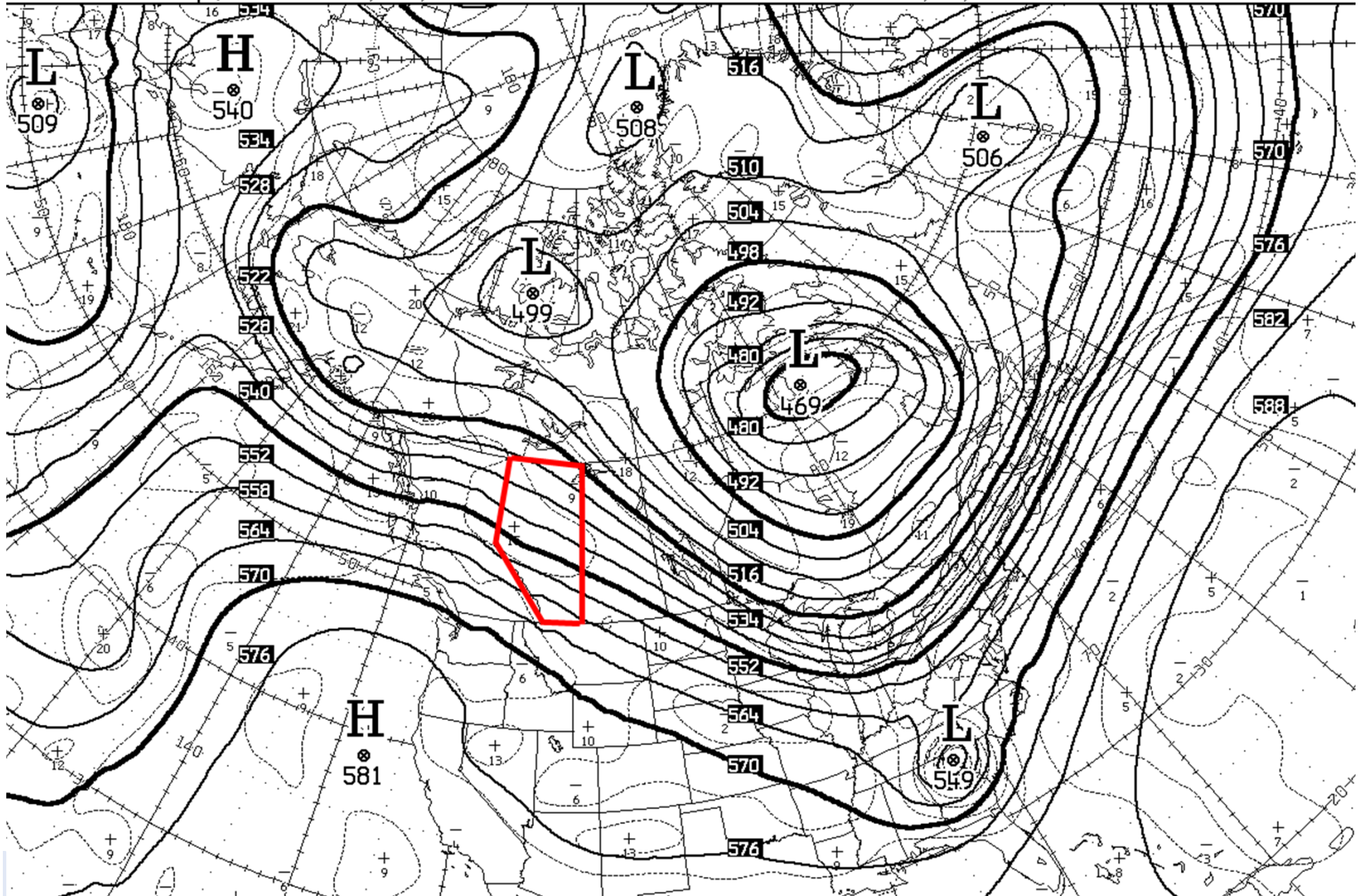
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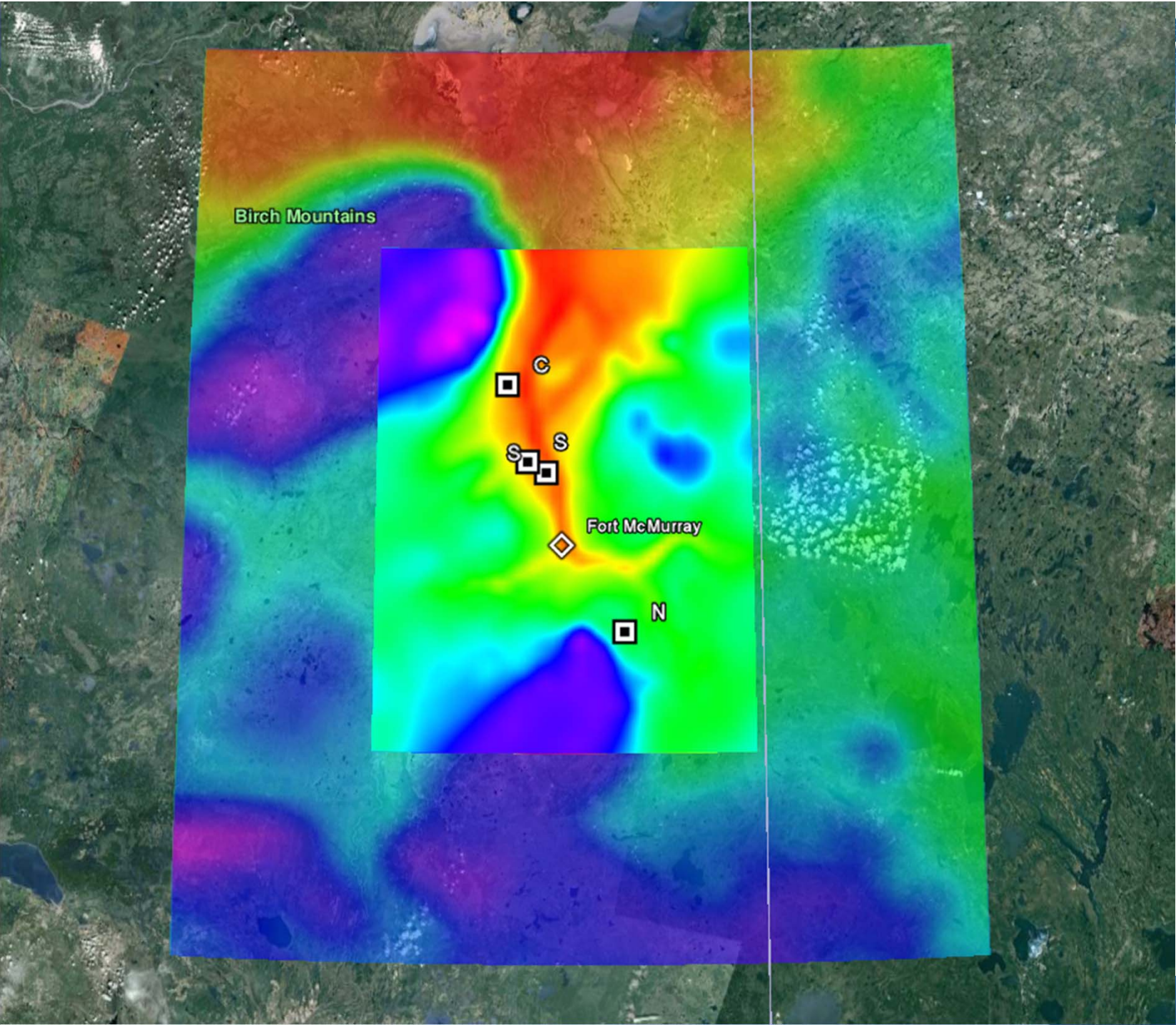
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EAMAS Software

- Wind Fields
- WBEA stations



<http://wbea.org>

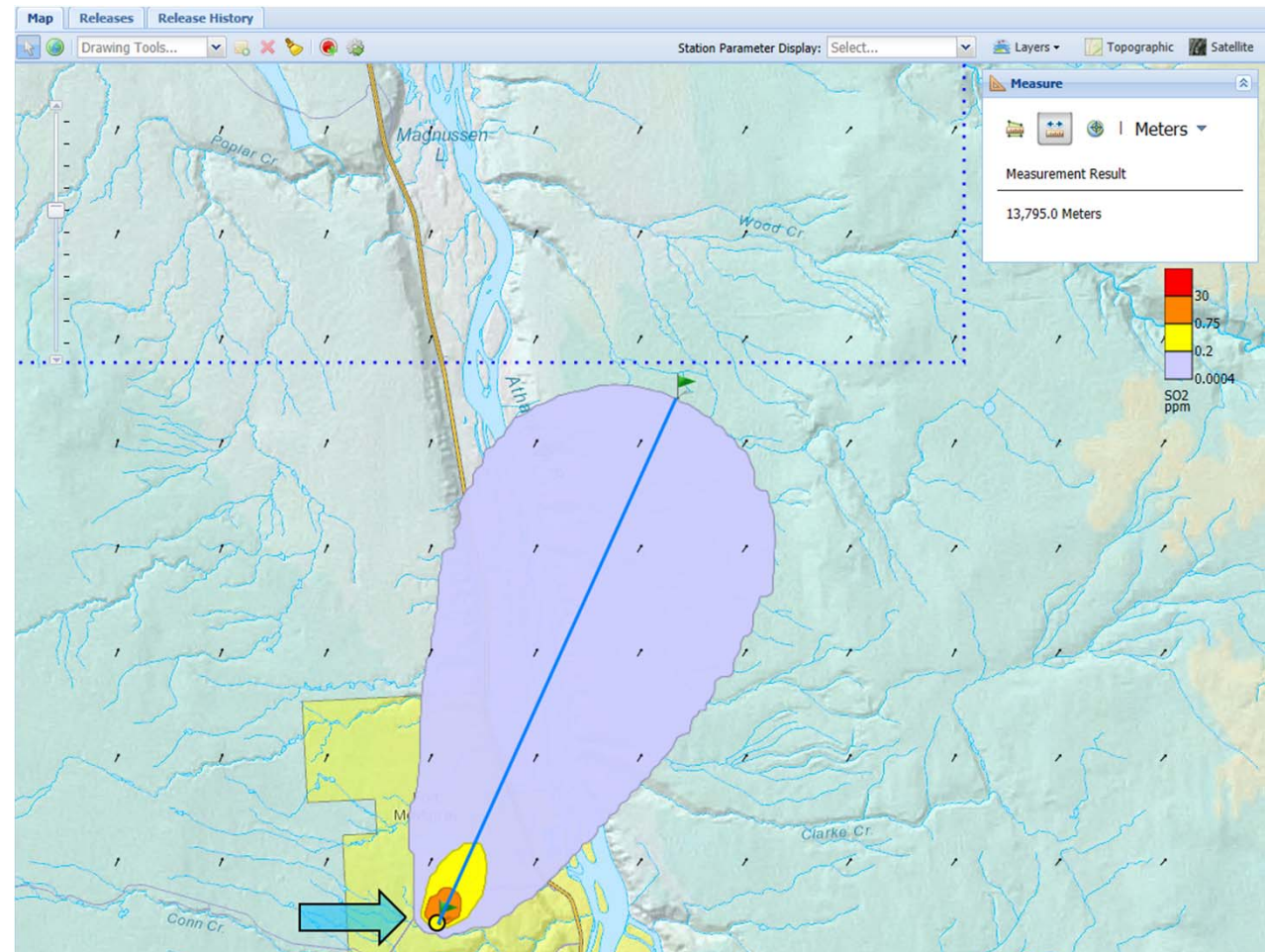
Release Types



Category	Specific Releases	Contaminants
Generic Sources	Point Source	SO ₂
Liquid Spills	Aqueous Ammonia spill	NH ₃
	Sour Water spill	H ₂ S
	Sour Crude floating roof collapse	H ₂ S
Pressurized Jets	Chlorine tank	Cl ₂
	Sour pressurized gas stream	H ₂ S
Ignited Flare Stacks	Sour gas stream	SO ₂
Stacks	Sour gas stream from unignited low-pressure flare stack, ignited flare stack or incinerator	H ₂ S
Pool/Tank Fires	Molten sulphur pool fire	SO ₂

Category	Specific Releases	Contaminants
Pool/Tank Fires	Hydrocarbon tank/pool fire	SO ₂ CO NO ₂ PM _{2.5} Acrolein (carbonyl) Formaldehyde (carbonyl) Naphthalene (PAH) Benzene (VOC)

Live Demo



'Real Event' eMail-Outs



This is an automated email from the Alberta Environment and Sustainable Resource Development (ESRD) Emergency Air Monitoring and Assessment System (EAMAS).

Darren Cherneski with RWDI has denoted dispersion model run 163 as a real atmospheric release event and has selected you for notification.

Contact information for Darren Cherneski:

Business Phone: 403-333-3333

Cell Phone: 403-222-2222

Email: darren.cherneski@rwdi.com

Dispersion model run information:

Description: Tank fire of Crude Oil

Model Run: 163

Model Run Submitted at: 18/01/2013 2:31:48 PM

Release Start Time: 18/01/2013 6:20:00 AM

Facility: RWDI Tank Farm

Organization: RWDI

Source: Tank 5

Scenario: Fire from tank roof

Location: 56.973, -111.475

...

...

Parameters:

Release Duration (min): 120

Model Duration (min): 480

Contents: Diluted Bitumen

Surface Area (m²): 2922

Sulfur Content (%): 3.2

Notification sent at: 18/01/2013 3:00:19 PM

Notifications sent to: ASERT (asert@gov.ab.ca), darren.cherneski@rwdi.com

For users with EAMAS logins, the URL to the EAMAS system is: <http://eamas.gov.ab.ca>

Expansion in Wood Buffalo Region

Other Areas of Concern

- Fort Saskatchewan
- Other industrialized areas of Alberta





Questions?